

Thinkpiece

WHY I BELIEVE IN SCIENCE AND BELIEVE IN GOD: A CREDO

by Ervin Laszlo

Abstract. The conflict between science and religion is not irremediable: the world concept of science is changing, and the change brings about a rapprochement with religious beliefs in some fundamental areas. One such area is the question of original creation. Recent findings regarding the nature of the universe show the improbability of its having arisen in the course of a random process. The perennial religious intuition of a transcendental act of creation is a logical entailment of the randomly entirely improbable fine tuning of the natural laws and processes that the observed universe manifests.

Keywords: creation; science-religion conflict; scientific worldview; universe.

As a philosopher of science and concerned humanist, I for one believe in science and also believe in God. I do so without a sense of conflict and contradiction. How is this possible? Many of us grew up with the conviction that the conflict between science and religion is ultimately irremediable. Today this is no longer the case. Although it would be exaggerated to claim that the worldviews of science and of religion are the same, they reach the same fundamental conclusion about the world. In that regard, at least, we can believe in science and, in good conscience, believe in God.

If we are to understand why science and religion—even Western Judeo-Christian religion—reach the same fundamental conclusion about the world, we should understand what science is now telling us about the world.

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This is quite different from what classical science had to say and from what we were told in school and are still being told on television, in newspapers, and by popular-science publications.

Today, in the early years of the twenty-first century, the worldview of science is changing just as profoundly as it did in the early twentieth century, when Einstein substituted the relativistic universe for Newton's mechanistic clockwork universe. The new world concept of science—the concept now emerging at the cutting edges of physics, biology, and consciousness research—is surprising and not generally known. People still believe that science's world is dry and abstract, reducible to numbers and formulas. The universe is a soulless mechanism and life in it a random accident. The specific features of living species seem to result from a succession of accidental events in the history of biological evolution on Earth, and the features of human beings appear to be due to a fortuitous combination of the genes with which they were born. The psyche, in turn, seems to be dominated by elemental drives for self-gratification, so that if people were not afraid of societal repercussions they would steal, kill, commit incest, and engage in promiscuous sexual activity.

This is not the concept of the cutting-edge sciences. The popular ideas of Newton, Darwin, and Freud, the basic sources of today's purportedly scientific views of humanity and the universe, have been overtaken by new discoveries. In the emerging vision the universe is not a lifeless, soulless aggregate of inert chunks of matter; it resembles a living organism more than a dead rock. Life is not a random accident, and the basic drives of the human psyche include far more than drives for sex and self-gratification.

There is a highly significant agreement between the new scientific worldview and the worldview of Christian and other monotheistic religions, but this is not immediately evident. The Judeo-Christian view is that the world is God's creation. God is eternal, omnipotent, and omnipresent. The reality that surrounds us, including ourselves, is the result of divine creativity. Whatever else the Western religious view may hold—and whatever the differences between its various branches, Judaism, Christianity, and the Muslim world may be—creation by a transcendent God is a basic element.

At first glance, anyone believing in science seems obliged to reject the tenet of universe creation by divine agency. Scientists do not agree that the way things are is a result of special acts of creation. They claim instead that the way things are is the result of evolution. But those who believe in an eternal and omnipotent God cannot accept that everything around us is the product of evolution. The random interplay of chance mutations and natural selection seems extremely unlikely to have produced the remarkable spectacle of life and mind. Yet this is precisely what mainstream Darwinists such as Richard Dawkins maintain.

The living world, Dawkins says, may give the impression of having been created for a purpose, but this is an illusion. Cheetahs, for example, give

every indication of having been designed to kill antelopes. The teeth, claws, eyes, nose, leg muscles, backbone, and brain of a cheetah are all precisely what we should expect if God's purpose in creating cheetahs was to maximize the number of deaths among antelopes. At the same time, antelopes are fast, agile, and watchful—seemingly designed to escape cheetahs. Do these and similar facts argue for intelligent design? They do not, according to Dawkins and other Darwinists. Nature was not designed: its seeming purposefulness is the adaptive evolution of specific utility functions. Cheetahs have the utility function to kill antelopes, and antelopes, to escape cheetahs. Nature itself is indifferent to their fate. This is a world of blind physical forces and genetic replication, where some get hurt and others flourish. It has precisely the properties we would expect it to have if at bottom there were no design, no purpose, no evil, and no good, only blind and pitiless indifference.

This world seems to contradict belief in creation by an intelligent and benevolent God. Such a creator must have been indifferent, if not actually a sadist who enjoys spectator blood sports. It is more reasonable, says Dawkins, to hold that the world just *is*, without deeper reason or purpose. The way it is results from random processes played out within limits set by fundamental physical laws.

Creationists, however, cannot agree that all we see in the world, ourselves included, results from random processes and impersonal laws. Scientists cannot come up with manifest proof for their theory of evolution: "You can't go into the laboratory or the field and make the first fish," said Tom Willis, director of the Creation Science Association for Mid-America. The theory that everything evolved by blind chance out of common and simple origins is just that—pure theory. It is not substantiated by solid evidence.

If the creationists and the Darwinists are both right, one cannot believe in science and believe in God. But the creationists and the Darwinists are both wrong, and for the same reason. Evolution is not the chance interplay of random mutations and natural selection. There is more to the emergence of life than classical Darwinists admit. An organism is an interconnected coherent system, and subtle but real connections are being discovered also between organisms and their life-supporting environment. The world of life is a world of wholeness and interconnection—a subtle "web of life," to use the expression made popular by Fritzjof Capra.

Could such a web emerge in the course of time, or must we assume that it was created by divine will and purpose? The emerging scientific insight is that it could emerge in the course of time but that this emergence involves far more than the chance interplay of random mutations in the genome and the elimination of unfit mutants by natural selection. It requires a finely tuned ensemble of natural laws and processes—physical, chemical, and biological conditions under which it could evolve. These

call, in turn, for a universe in which the required physical, chemical, and then biological conditions could emerge. These are remarkable requirements, not likely to be satisfied by the assumption of random processes in an indifferent cosmos.

Science, committed to finding an explanation of the observed facts in natural rather than supernatural terms, comes up against the question, How could the universe be so disposed that it could permit the evolution of life? This must have been more than mere serendipity. A fortunate choice involves selecting our universe from among some 10^{123} alternative universes, each with an equal chance of being *the* universe. If there was no predisposition toward our universe from a supernatural source, the laws of probability dictate that there should have been a set of 10^{123} tries—because only then is there a significant probability of hitting on a universe such as ours.

In the final count, there is no scientifically natural explanation of why our universe is the way it is. This universe is extremely unlikely to have come about by chance. We either admit to an ultimate mystery or recognize that there was some supernatural agency at work. This agency did not create the world as we find it; rather, it created the *preconditions* for the world to evolve into the way it now is. This notion of preconditions—or, better, “potentials”—for evolution is compatible with Christian theology: a similar concept is present in the writings of Saint Augustine. There all changeable things are explained in reference to an immutable and eternal form unrestricted in time and space. This form is in the things of the world as well as in the Divine Mind. In consequence the world tends toward order, with all things moving toward their place.

If the universe we inhabit is a blind concourse of particles and atoms, bringing forth life and mind as accidental by-products of random mixing, we cannot speak of purposeful intelligent design. Classical science has no need of a purposeful Creator; all it requires is a Prime Mover to get its mechanism going. But if the universe is not machinelike but organism-like, it needs more than a random push. It needs highly specific potentials for evolution.

As a number of observers point out, the mechanistic concept has been transcended—first by the relativity revolution and then by the quantum revolution. It is made still more obsolete by the revolution under way today in the life sciences. Thus the question posed by “creationists” and “evolutionists” needs to be reformulated. It is not design *or* evolution. Design and evolution are not mutually exclusive. Quite the contrary, they presuppose each other. There could not have been evolution if a creative agency had not created the potentials for it. Our universe could not have arisen purely by chance. The world as we find it was not created by divine agency, but the *potentials* were created for the world to *become* as we find it.

The difference between science and traditional Christianity in this view of divine agency is not negligible, but it is also not irremediable. Whether we are science-minded or religious, we can agree that there is something higher, or deeper, or greater than the manifest world with its laws and entities and processes. And thus we can believe in science, with its increasingly detailed and precise account of the laws, entities, and processes of this world; and we can believe also in God—in the divine agency that created the potentials so that the laws, the entities, and the processes could come into being—and the stupendous process that brought forth galaxies and stars, and planets around some of the stars, and life on some of the planets, and intelligent life here on Earth, could get under way and bring us the diversity and the harmony, the complexity and the splendor that now meets our eye.

